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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/662,009	09/11/2003	Richard Ian Knox	GB920020095US1	8594
25259	7590	03/09/2006	EXAMINER	
IBM CORPORATION 3039 CORNWALLIS RD. DEPT. T81 / B503, PO BOX 12195 REASEARCH TRIANGLE PARK, NC 27709			COLAN, GIOVANNA B	
		ART UNIT	PAPER NUMBER	2162

DATE MAILED: 03/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/662,009	KNOX ET AL.	
	Examiner	Art Unit	
	Giovanna Colan	2162	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 09/11/2003.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-11 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-11 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 14 March 2003 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____

DETAILED ACTION

1. This action is issued in response to applicant filed application on 09/11/2003.
2. Claims 1 – 11 are pending.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 1 – 10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 4 and 9 recite the limitations “MD5”, “CRC”, “1- s”, and “XOR”, which are not defined by the claim. These limitations render the claim indefinite.

Claim 5 and 8 recite the limitation “XSL,” which is not defined by the claim. This limitation renders the claim indefinite

Claim 1 and 6 recite the limitation “insensitive”. The term “insensitive” is a relative term, which renders the claim indefinite. Examiner is unable to determine the level of insensitiveness the invention discloses.

Claim 2 and 7 recite the limitation “sensitive”. The term “sensitive” is a relative term, which renders the claim indefinite. Examiner is unable to determine the level of sensitiveness the invention discloses.

Any claim not specifically addressed, above, is being rejected as incorporating the deficiencies of a claim upon which it depends.

Examiner asserts that all claims should be checked for clarification.

Appropriate action is required.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claim 1, 3, 6, 8, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lai et al. (Lai hereinafter) (US Patent No. 6,996,585 B2, filed:

September 24, 2002) view of Bradshaw et al. (Bradshaw hereinafter) (US Patent App.

Pub. No. 2002/0129042 A1, filed: April 24, 2002).

Regarding Claim 1, Lai discloses a method of identifying an update between a first version of a data file and a second version of a data file, the data file having a plurality of blocks of data (Col. 1, lines 64 – 66, Lai), the meaning of the data file being insensitive to the ordering of the blocks of data within the data file (Col. 2, lines 60 – 65, Lai¹), the method comprising the steps of:

providing each of said plurality of blocks of data with a first checksum (Col. 1, lines 64 – 66, Lai);

providing each of said versions of the data file with a second checksum of the said version of the data file as a whole, said second checksum being insensitive to the ordering of the blocks of data within the data file (Col. 2, lines 60 – 65, Lai²);

However, Lai is silent with respect to comparing checksums of the versions of the data files. On the other hand, Bradshaw discloses a system and method including:

¹ Wherein the updated file corresponds to the new version of the file, the checksum of this new file corresponds to the first checksum, and the checksum of the file when is updated again corresponds to the second checksum (as disclosed in claimed). Regarding the ordering of the blocks claimed, examiner interprets that since Lai's disclosure stores data records of the file, such as, filename and path; data can be located even though it is not in a specified order in the directory (Col. 3, lines 45 – 47, Lai). This makes Lai's procedure insensitive to the ordering of the files.

² Wherein the updated file corresponds to the new version of the file, the checksum of this new file corresponds to the first checksum, and the checksum of the file when is updated again corresponds to the second checksum (as disclosed in claimed). Regarding the ordering of the blocks claimed, examiner interprets that since Lai's disclosure stores data records of the file, such as, filename and path; data can be located even though it is not in a specified order in the directory (Col. 3, lines 45 – 47, Lai). This makes Lai's procedure insensitive to the ordering of the files.

comparing the second checksum of the first version of the data file with the second checksum of the second version of the data file (Page 10, [0081], lines 3 – 5, Bradshaw³);

responsive to said comparison indicating that the second checksum of the first version of the data file differs from the second checksum of the second version of the data file (Page 10, [0081], line 5, Bradshaw⁴):

comparing the first checksum of each of said plurality of blocks of data of the first version of the data file with the first checksum of each of said plurality of blocks of data of the second version of the data file (Page 10, [0081], lines 15 – 18, Bradshaw⁵); and

providing an indication of which of said plurality of blocks of data differ between the first version of the data file and the second version of the data file (Page 10, [0084], lines 1 – 6, Bradshaw⁶). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate Bradshaw's teachings to Lai's system. Skilled artisan would have been motivated to do so, as suggested by Bradshaw (Page 2, [0012], lines 1 – 6, Bradshaw), to save in-progress information in the event of a process or system failure and to reduce the amount of downtime resulting from such failures.

³ Wherein the checksum disclosed on this citation corresponds to second checksum claimed.

⁴ Wherein the information queried corresponds to the responsive of the comparison.

⁵ Wherein the new checksum corresponds to first checksum claimed.

⁶ Wherein each blob corresponds to a block of data (Page 10, [0082], lines 2 – 4, portion of data may be referred as a "data blob", Bradshaw). Examiner interprets the step of looking for signatures of the blobs as a method for providing an indication of which blocks of data are different. In addition, Bradshaw discloses providing this indication (Page 10, [0088], lines 11 – 13, Bradshaw).

Art Unit: 2162

Regarding Claim 3 and 8, the combination of Lai in view of Bradshaw discloses apparatus wherein at least one of the blocks of data consists of a plurality of components and each of said plurality of components further comprises a third checksum (Col. 3, lines 29 – 32, Lai).

Regarding Claim 6, the combination of Lai in view of Bradshaw discloses an apparatus for identifying an update between a first version of a data file and a second version of a data file, the data file having a plurality of blocks of data (Col. 1, lines 64 – 66, Lai), the meaning of the data file being insensitive to the ordering of the blocks of data within the data file (Col. 2, lines 60 – 65, Lai⁷), the apparatus comprising:

first checksum generating means for generating a first checksum for each of said plurality of blocks of data(Col. 1, lines 64 – 66, Lai);

second checksum generating means for generating a second checksum for each of said first and said second versions of the data file as a whole, said second checksum being insensitive to the ordering of the blocks of data within the data file (Col. 2, lines 60 – 65, Lai⁸);

⁷ Wherein the updated file corresponds to the new version of the file, the checksum of this new file corresponds to the first checksum, and the checksum of the file when is updated again corresponds to the second checksum (as disclosed in claimed). Regarding the ordering of the blocks claimed, examiner interprets that since Lai's disclosure stores data records of the file, such as, filename and path; data can be located even though it is not in a specified order in the directory (Col. 3, lines 45 – 47, Lai). This makes Lai's procedure insensitive to the ordering of the files.

⁸ Wherein the updated file corresponds to the new version of the file, the checksum of this new file corresponds to the first checksum, and the checksum of the file when is updated again corresponds to the second checksum (as disclosed in claimed). Regarding the ordering of the blocks claimed, examiner interprets that since Lai's disclosure stores data records of the file, such as, filename and path; data can be located even though it is not in a specified order in the directory (Col. 3, lines 45 – 47, Lai). This makes Lai's procedure insensitive to the ordering of the files.

first comparison means for comparing the second checksum of the first version of the data file with the second checksum of the second version of the data file (Page 10, [0081], lines 3 – 5, Bradshaw⁹);

second comparison means for comparing the first checksum of each of said plurality of blocks of data of the first version of the data file with the first checksum of each of said plurality of blocks of data of the second version of the data file, the second comparison means being responsive to said first comparison means indicating that the second checksum of the first version of the data file differs from the second checksum of the second version of the data file (Page 10, [0081], lines 15 – 18, Bradshaw¹⁰);

indication means providing an indication of which of said plurality of blocks of data differ between the first version of the data file and the second version of the data file (Page 10, [0084], lines 1 – 6, Bradshaw¹¹).

Regarding Claim 11, the combination of Lai in view of Bradshaw discloses a computer program comprising computer program code means adapted to perform the steps of claim 1 (Fig. 1, item 102, Page 4, [0039], lines 5 – 11, Bradshaw).

⁹ Wherein the checksum disclosed on this citation corresponds to second checksum claimed.

¹⁰ Wherein the new checksum corresponds to first checksum claimed.

¹¹ Wherein each blob corresponds to a block of data (Page 10, [0082], lines 2 – 4, portion of data may be referred as a “data blob”, Bradshaw). Examiner interprets the step of looking for signatures of the blobs as a method for providing an indication of which blocks of data are different. In addition, Bradshaw discloses providing this indication (Page 10, [0088], lines 11 – 13, Bradshaw).

8. Claim 2, 4, 7, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lai et al. (Lai hereinafter) (US Patent No. 6,996,585 B2, filed: September 24, 2002) view of Bradshaw et al. (Bradshaw hereinafter) (US Patent App. Pub. No. 2002/0129042 A1, filed: April 24, 2002), and further in view of Squibb (Squibb hereinafter) (US Patent No. 5,479,654, patented: December 26, 1995).

Regarding Claim 2 and 7, the combination of Lai in view of Bradshaw discloses all the limitation as disclosed above, including checksums and blocks of data. However, the combination of Lai in view of Bradshaw is silent with respect to being sensitive to the ordering of the data. On the other hand, Squibb discloses a system and method including checksums that are sensitive to the ordering of the data within a block of data (Col. 6 and 7 – 8, lines 28 – 34, 66 – 67, and 1 – 6; respectively, Squibb). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate Squibb's teaching to the combination of Lai in view of Bradshaw' system. Skilled artisan would have been motivated to do so, as suggested by Squibb (Col. Col. 1, lines 33 – 39, Squibb), to generate a set of representatives of the changes made in a computer file which can be used to update an earlier version of the file, or to create a previous version of an updated file; and to use such a set of representations in a cost and time effective manner. In addition, this suggestion of combination is strongly made because both systems teach procedures in the same field of databases, such as, versioning, updating changes, checksums, XOR, and CRC algorithms.

Regarding Claim 4 and 9, the combination of Lai in view of Bradshaw and further in view of Squibb discloses an apparatus further comprising the steps of:

selecting said third checksum from one of MD5 or a CRC algorithm (Col. 3, lines 29 – 32, Lai; and Col. 6, lines 29 – 34, Squibb); and

combining said third checksum to provide said first checksum for each of the blocks of data using one of a 1-s complement sum or an XOR algorithm (Fig. 3, item S31, Col. 2, lines 1 – 2, Lai; and Col. 6, lines 28 – 29 and 33 – 35, Squibb).

9. Claim 5 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lai et al. (Lai hereinafter) (US Patent No. 6,996,585 B2, filed: September 24, 2002) view of Bradshaw et al. (Bradshaw hereinafter) (US Patent App. Pub. No. 2002/0129042 A1, filed: April 24, 2002), and further in view of Kuznetsov (Kuznetsov hereinafter) (US Patent App. Pub. No. 2001/0056504 A1, published: December 27, 2001).

Regarding Claim 5 and 10, the combination of Lai in view of Bradshaw discloses all the limitations as disclosed above, including XML data files (Page 11, [0092], lines 11 – 13, Bradshaw). However, the combination of Lai in view of Bradshaw is silent with respect to an XSL Transform. On the other hand, Kuznetsov discloses XSL Transform (Page 8, [0091], lines 1 – 3, Kuznetsov). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the Kuznetsov's teachings to the combination of Lai in view of Bradshaw. Skilled artisan would have been motivated to do so, as suggested by Kuznetsov (Page 3, [0019], lines 4 – 5,

Kuznetsov), to provide a flexible transformation mechanism that facilitates generation of translation code on the fly.

Prior Art Made Of Record

1. Lai et al. (US Patent No. 6,996,585 B2, filed: September 24, 2002) discloses a method for version recording and tracking.
2. Bradshaw et al. (US Patent App. Pub. No. 2002/0129042 A1, filed: April 24, 2002) discloses a method of and apparatus for recovery of in-progress changes made in a software application.
3. Squibb (US Patent No. 5,479,654, patented: December 26, 1995) discloses an apparatus and method for reconstructing a file from a difference signature and an original file.
4. Kuznetsov (US Patent App. Pub. No. 2001/0056504 A1, published: December 27, 2001) discloses a method and apparatus of data exchange using runtime code generator and translator.
5. Cane et al. (US Patent No. 6,101,507) discloses a file comparison for data backup and file synchronization.
6. Zoltan (US Patent No. 6,668,260 B2) discloses a system and method of synchronizing replicated data.
7. Smith, II (US Patent App. Pub. No. 2003/0023718 A1) discloses a system and method for tracking updates in a network site.

Points Of Contact

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Giovanna Colan whose telephone number is (571) 272-2752. The examiner can normally be reached on 7:30 am - 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene can be reached on (571) 272-4107. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Giovanna Colan
Examiner
Art Unit 2162
March 2, 2006

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